Claim Amendments

Please amend claims 1, 6, 10, 14, 16, 17, 19, 22, and 23 as follows:

Please cancel claims 4, 5, 15, 21, and 26 as follows:

Claims as Amended

1. (currently amended) A semiconductor device fuse structure to prevent dielectric layer cracking at corner portions of associated metallization structures comprising:

a substrate;

a top inter-metal dielectric layer on said substrate;

at least two top metal lines comprising copper in said top inter-metal dielectric layer, each of said at least two top metal lines comprising a topmost metal layer in electrical communication with ~~at least one lower metal layer comprising a first metal layer~~ underlying copper interconnect structures extending through a plurality inter-metal dielectric layers;

a fuse comprising aluminum on said top inter-metal dielectric layer, said fuse providing electrical communication between said at least two top metal lines by spanning a distance between said at least two top metal lines;

a protective layer comprising a passivation layer on said

fuse; and

a window formed through a thickness portion of the protective layer to said passivation layer, said window positioned over a top portion of said fuse.

2. (original) A semiconductor device according to claim 1, wherein said protective layer on said fuse comprises a dielectric layer.

3. (original) A semiconductor device according to claim 2, wherein said dielectric layer comprises silicon dioxide.

4. cancelled.

5. cancelled.

6. (currently amended) A semiconductor device fuse structure to prevent low dielectric material layer cracking at corner portions of associated metallization structures comprising:

two separated and respectively interconnected metallization structures, each of said metallization structures comprising

copper and extending through a plurality of low dielectric material inter-metal dielectric layers;

wherein a fuse comprising aluminum extends between and electrically interconnects each of the metallization structures in an uppermost inter-metal dielectric layer; and,

a window is disposed over a top portion of said fuse, said window extending through a thickness portion of a silicon dioxide layer on said fuse.

7. cancelled

8. cancelled

9. (previously presented) The semiconductor device as set forth in claim 6 wherein each of the metallization structures include a first metal layer and a topmost metal layer, each of said topmost metal layers connected to said fuse.

10. (currently amended) The semiconductor device as set forth in claim 9 further comprising an etch stop layer on an upper main face and a lower main face ~~face~~ of the uppermost inter-metal

dielectric layer.

11. (original) The semiconductor device as set forth in claim 9 further comprising a plug extending between the first metal layer and the topmost metal layer of the structure.

12. (original) The semiconductor device as set forth in claim 6 wherein the aluminum fuse has a thickness ranging from 1000-7000 angstroms.

13. (original) The semiconductor device as set forth in claim 9 wherein the topmost metal layer of the structure has a thickness of at least 8000 angstroms.

14. (currently amended) A semiconductor device including a fuse comprising a first layer comprising a copper ~~island~~ damascene disposed in a low dielectric material inter-metal dielectric layer and a ~~second~~ fuse layer ~~overlying~~ on the first layer, wherein the ~~second~~ fuse layer comprises aluminum; and,

a fuse window disposed over said ~~second~~ fuse layer, said fuse window extending through a thickness portion of at least one dielectric layer overlying said fuse layer to a passivation layer

on said fuse layer.

15. cancelled

16. (currently amended) The semiconductor device as set forth in claim 14 wherein the ~~at least one dielectric layer comprises a passivation layer on the second layer, said~~ passivation layer comprises~~ing~~ silicon dioxide.

17. (currently amended) The semiconductor device as set forth in claim 14 further include[[e]]ing a first metal layer and a topmost metal layer comprising the copper ~~island~~ damascene wherein the inter-metal dielectric layer is interposed between the first metal layer and the topmost metal layer.

18. (previously presented) The semiconductor device as set forth in claim 17 further comprising an etch stop layer on an upper main face and a lower main face of the inter-metal dielectric layer.

19. (currently amended) The semiconductor device as set forth in claim 17 wherein the at least one dielectric layer further comprises ~~a fuse passivation layer on said second layer and~~ a

dielectric layer on said passivation layer wherein said fuse passivation layer comprises silicon dioxide.

20. (previously presented) The semiconductor device as set forth in claim 17 further comprising a plug extending between the first metal layer and the topmost metal layer.

21. cancelled*

22. (currently amended) A method of blowing ~~the fuse~~ the fuse structure of claim 1, comprising:

directing a laser beam onto the fuse using a wavelength ranging from 300-500 or 1000-1400 nm through the protective layer.

23. (currently amended) The method as set forth in claim 22 wherein the ~~protective layer comprises a fuse~~ passivation layer is disposed on an upper face of the fuse.

24. (previously presented) The method as set forth in claim 23 wherein the fuse passivation layer comprises silicon dioxide.

25. (previously presented) The method as set forth in claim 22 wherein an upper face of the fuse comprises aluminum.

26. cancelled*

27. cancelled

28. (previously presented) A method of blowing a fuse structure to prevent low dielectric material layer cracking at corner portions of associated metallization structures, said fuse structure comprising:

a fuse window formed through at least one dielectric layer overlying an upper face of an aluminum fuse to expose a passivation layer comprising silicon dioxide on said fuse, said fuse window selectively disposed over said upper face of said aluminum fuse;

said aluminum fuse spanning a distance between two copper metallization structures, each of said copper metallization structures comprising interconnected damascene structures extending through a plurality of low dielectric material layers;

wherein said method comprises:

directing a laser beam onto said fuse through said silicon dioxide passivation layer using a wavelength ranging from 300-500 or 1000-1400 nm.